

REMARKS/ARGUMENTS

Status of the Claims

Entry of the amendment and reconsideration of the present application is respectfully requested. Claims 1, 3, 4, 6-15, 19-29, and 36-41 are pending in the current Amendment. Claims 1, 3, 4, 6, 11, 19-21, 26-29 have been amended, claim 5 has been cancelled, and claims 36-41 have been added. Support for new claims 36-41 are found, for example, in claims 12, 13, 20, and 21 as originally filed. Amendments to the specification include providing a copy of the Abstract, and correcting the recitation of related applications as directed in the Action. Further amendments to the specification were made to correct typographical and/or grammatical errors and are not discussed further. A copy of the drawing Figure is provided in Appendix A. Support for these amendments is found throughout the claims and specification as originally filed. No new matter has been introduced by these amendments. Applicants reserve the right to pursue the content of these claims in continuing applications.

Information Disclosure Statement

Applicant notes with thanks receipt of the initialed copy of the Information Disclosure Statement submitted July 2, 2002.

Restriction Requirement

Applicant notes with thanks the inclusion of SEQ ID NO: 7 encoding SEQ ID NO: 8 for the Examination of the elected claims of Group I including SEQ ID NO: 5 encoding SEQ ID NO: 6. Claims 1, 3, and 4 have been amended to recite the sequence IDs under examination. Support for these amendments is found in claims 1, 3, and 4 as originally filed.

Specification

Several defects in the specification were noted. The following amendments have been made:

The Abstract as originally filed is presented on page 3 of the current Amendment. This Abstract is identical to the Abstract in the application as originally filed and published as WO 01/23575. No new matter has been added.

The Figure 1 drawing as originally filed is presented in Appendix A. This drawing is identical to the drawing as filed and published as WO 01/23575. Applicant found Figure 1 has been scanned as pages 18-19 of the Sequence Listing file in the IFW on PAIR, paper dated 04/20/2001. No new matter has been added.

The paragraph reciting related application(s) and priority filings has been amended as suggested by the Examiner. Applicant thanks the Examiner for detailing a recommended correction to obviate the objection.

Applicant believes the objections to the specification are obviated by the above amendments and submissions. No new matter has been added by any amendment or submission.

Claim Objection

Claims 6, 7, 11, and 26 were objected to for reciting "any one of claims 1, 3, 4 or 5". Claim 5 is cancelled in the current amendment. Claims 6, 7, 11, and 26 have been amended essentially as recommended by the Examiner to recite "any one of claims 1, 3, *and* 4". Applicant thanks the Examiner for detailing a recommended correction to obviate the objection. Applicant believes the objections to claims 6, 7, 11, and 26 are obviated by the amendments and requests withdrawal of the objections in the next Office Communication.

Claim Rejection – 35 USC §112, 2nd Paragraph

Claims 1, 5-15 and 19-29 were rejected under 35 USC §112, 2nd paragraph as being indefinite.

The Action asserts that claim 1 is indefinite for reciting "... at least 100 amino acids, wherein the amino acid sequence of the polypeptide and SEQ ID NO: 6 have at least 80% identity ...", and concludes that a polypeptide having 100 amino acids would exhibit 42% identity with SEQ ID NO: 6. Applicants respectfully disagree. Claim 1 recites that the alignment is based on the CLUSTAL alignment method. This method is well known in the art, algorithms based on the method generate the best global alignment over the full length of the aligned sequences, and penalize mismatches and gaps within the aligned region, it does not penalize the non-aligned ends of sequences. Therefore the difference in length between two sequences is not penalized in the alignment and does not affect the calculated percent identity based on the best alignment of the sequences. This is also true of the global alignment program GAP, and local alignment algorithms such as BLAST. Therefore, Applicant maintains that claim 1 is definite.

The Action asserts claim 5 is indefinite for reciting "wherein the WUS protein". Claim 5 has been cancelled, therefore the rejection is obviated. However, claim 1 has been amended to recite "wherein the polypeptide is a WUS protein which stimulates *in vitro* growth of plant tissue". Support for this amendment is found throughout the specification and claims as originally filed, see for example, page 1, lines 32-34. Further, Applicant believes this amendment is clear, and that the rejection to claim 5 does not apply to claim 1 as amended. Should the rejection be applied to claim 1 in the next Action, Applicant respectfully requests that the Examiner more specifically describe which term or phrase lacks clarity.

The Action asserts that claim 9 is incomplete by omitting essential step(s), that the "Applicant does not recite an expression", and that the preamble and last method step are not congruent. It appears that claim 10 should have been included

in this rejection. If the Applicants have correctly interpreted the rejection, it appears the Examiner believes that claim 9 (and claim 10) should recite a step such as “expressing the isolated polynucleotide”. However, in claims 9 and 10 the isolated polynucleotide provided is a “functional RNA”, therefore an expression step is not essential to claimed method(s). Therefore, Applicant believes that claims 9 and 10 are definite and recite all essential steps. Should the rejection be maintained in the next Action, Applicant respectfully requests that the Examiner clarify the rejection.

The Action asserts that claim 11 is indefinite for the recitation of “suitable”. Claim 11 has been amended to delete the term “suitable”, thereby obviating the rejection.

The Action asserts that claim 19 is incomplete by omitting essential step(s), in that the preamble and the last step are not congruent. Claim 19, step (b) has been amended to recite “to produce meristem proliferation”. Applicant believes this amendment obviates the rejection.

Applicant has overcome the rejection of claims 1, 5-15 and 19-29 under 35 USC §112, 2nd paragraph by argument and/or amendment, and therefore requests that the rejection be withdrawn in the next Office Communication.

Claim Rejection – 35 USC §112, 1st Paragraph, Written Description

Claims 1, 5-15 and 19-29 were rejected under 35 USC §112, 1st paragraph as containing subject matter which was not described in the specification in such a way to reasonably convey to one skilled in the relevant art that the inventor(s), at the application was filed, had possession of the claimed invention.

The Action asserts that the Applicant did not identify essential regions of the protein encoded by SEQ ID NO: 5, nor describe any polynucleotide sequences that encode a protein having 80% identity with SEQ ID NO: 6 and encode a functional protein, citing University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997) (“A definition by function does not suffice to

define the genus because it is only an indication of what a gene does, rather than what it is.”). The Action asserts that the Applicant failed to describe a representative number of sequences from a representative number of plant species, and that Applicant only describe a single cDNA sequence of SEQ ID NO: 5.

Applicant respectfully disagrees. As cited in the Action, University of California v. Eli Lilly and Co., 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997) further states “A description of a genus of cDNAs may be achieved by means of a recitation of a representative number of cDNAs, defined by nucleotide sequence, falling within the scope of the genus, or of a recitation of structural features common to members of the genus, which features constitute a substantial portion of the genus.” Applicant did not describe only a single cDNA sequence of SEQ ID NO: 5, Applicant described twelve Wuschel cDNAs from corn (a monocot) or soybean (a dicot) (SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, and 23), their encoding polypeptides (SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24), and known Wuschel polypeptide from *Arabidopsis* (SEQ ID NO: 25). Applicant further describes the genus of polynucleotides and encoded polypeptides structurally using percent sequence identity, which is well understood in the art, and which describes features common to the members of the genus – how many residues are identical between the two structures. The Office uses sequence identity to determine if claimed sequences are structurally novel over the prior art. Applicant further supplied an alignment of sequences in Figure 1, which illustrates regions in which amino acid residues are conserved (identical or conservative substitution). Applicant provides Appendix B which comprises an additional alignment of all the polypeptides disclosed, with conserved amino acids and domains highlighted by special formatting, and HmmerPfam search results.

Sequence identity determinations, sequence alignments, and other analyses, such as HmmerPfam were well known in the art at the time of filing, therefore Applicant described the invention in such a way to reasonably convey to one skilled

in the relevant art that the inventor(s), at the application was filed, had possession of the claimed invention. Therefore, Applicant respectfully requests that the rejection of Claims 1, 5-15 and 19-29 under 35 USC §112, 1st paragraph (written description) be withdrawn in the next Office Communication.

Claim Rejection – 35 USC §112, 1st Paragraph, Enablement

Claims 1, 5-15 and 19-29 were rejected under 35 USC §112, 1st paragraph as containing subject matter which was not described in the specification in such a way to enable one skilled in the art to which it pertains to make and use the invention.

The Action appears to assert that the Applicant had not reduced the invention to practice, therefore the invention was not enabled. Applicant respectfully disagrees as the presence of working examples is not the standard for enablement. As stated above, Applicant taught twelve sequences, described structurally and illustrated by the alignment in Figure 1 (five novel Wuschel sequences aligned with Arabidopsis Wuschel). Applicant taught the isolation, identification, and characterization of clones from corn and soybean (see, e.g., Examples 1-3, pp. 20-25), and stable and/or transient transformation of various plants and selection/identification of transformants (see, e.g., Examples 4-11, pp. 26-37). Enablement at the time of filing is further illustrated in Appendix C, which summarizes experimental data generated using two Wuschel sequences, and sequence identity comparisons of the sequences transformed into plants as compared to the sequences under examination in the instant application. Appendix C is an excerpt of U.S. Application 10/744,572, filed 12/23/03 which is a continuation-in-part of U.S. 09/807,946 (the instant application).

Applicant maintains that the specification enables one skilled in the art to which it pertains to make and use the invention, therefore it is respectfully requested

that the rejection of Claims 1, 5-15 and 19-29 under 35 USC §112, 1st paragraph (enablement) be withdrawn in the next Office communication.

Claim Rejection – 35 USC §101, Non-statutory subject matter

Claims 26 and 28 were rejected under 35 USC §101 as directed to non-statutory subject matter.

The Action asserts that the claims recite “A cell comprising” reads on a human being, which is non-statutory subject matter.

Claims 26 and 28 have been amended to recite “plant cell”. Regardless of this amendment, Applicant respectfully disagrees that claims 26 and 28 read on non-statutory subject matter as originally filed or previously amended because the claims were (are) directed to “*A method for transforming a (plant) cell comprising*” introducing an isolated polynucleotide. The claims did not recite “*A cell comprising*” the isolated polynucleotide.

Applicant respectfully requests that the rejection of claims 26 and 28 under 35 USC §101 be withdrawn in the next Office Communication.

Serial No. 09/807,946
Amendment Dated January 18, 2007
Reply to Office Action of October 18, 2006

CONCLUSION

Applicant respectfully requests entry and reconsideration of the amendment. Applicant believes all objections and rejections have been overcome and the application is in condition for allowance. The Examiner is invited to contact the undersigned representative by telephone to expedite prosecution and allowance of the application.

Respectfully submitted,

/Virginia Dress/
Virginia Dress, Reg. #48,248

PIONEER HI-BRED INTERNATIONAL, INC.
Corporate Intellectual Property
7250 N.W. 62nd Avenue
P.O. Box 552
Johnston, Iowa 50131-0552
Phone: (515) 270-4192
Facsimile: (515) 334-6883